

Listing of claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-24. (Cancelled)

25. (Currently amended) An isolated antibody or fragment thereof that specifically binds to a protein selected from the group consisting of:

- (a) a protein consisting of amino acid residues -40 to 615 of SEQ ID NO:2;
- (b) a protein consisting of amino acid residues 1 to 615 of SEQ ID NO:2;
- (c) a protein consisting of amino acid residues 1 to 310 of SEQ ID NO:2;
- (d) a protein consisting of amino acid residues 27 to 171 of SEQ ID NO:2; and
- (e) a protein consisting of a portion of SEQ ID NO:2, wherein said portion comprises at least 30 contiguous amino acid residues of SEQ ID NO:2.

26. (Currently amended) The antibody or fragment thereof of claim 25 that specifically binds protein (a).

27. (Currently amended) The antibody or fragment thereof of claim 25 that specifically binds protein (b).

28. (Currently amended) The antibody or fragment thereof of claim 25 that specifically binds protein (c).

29. (Currently amended) The antibody or fragment thereof of claim 25 that specifically binds protein (d).

30. (Currently amended) The antibody or fragment thereof of claim 25 that specifically binds protein (e).

31. (Currently amended) The antibody or fragment thereof of claim 26 that specifically binds protein (b).

32. (Currently amended) The antibody or fragment thereof of claim 30 that specifically binds a protein consisting of a portion of SEQ ID NO:2, wherein said portion comprises at least 50 contiguous amino acid residues of SEQ ID NO:2.

33. (Previously presented) The antibody or fragment thereof of claim 25 wherein said protein bound by said antibody or fragment thereof is glycosylated.

34. (Previously presented) The antibody or fragment thereof of claim 25 which is a human antibody.

35. (Previously presented) The antibody or fragment thereof of claim 25 which is a polyclonal antibody.

36. (Previously presented) The antibody or fragment thereof of claim 25 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a humanized antibody;
- (c) a single chain antibody; and
- (d) an Fab fragment.

37. (Previously presented) The antibody or fragment thereof of claim 25 which is labeled.

38. (Previously presented) The antibody or fragment thereof of claim 25 which is radiolabeled

39. (Previously presented) The antibody or fragment of claim 25 which is biotinylated.

40. (Previously presented) The antibody or fragment of claim 25 which is conjugated to a therapeutic or cytotoxic agent.

41. (Previously presented) The antibody or fragment thereof of claim 25, wherein the antibody or fragment thereof agonizes TR9 signaling.

42. (Previously presented) The antibody or portion thereof of claim 25 which is fused to a heterologous polypeptide.

43. (Previously presented) The antibody of claim 25 which is attached to a solid support.

44. (Currently amended) The antibody or fragment thereof of claim 25 wherein said antibody or fragment thereof ~~specifically~~ binds to said protein in a Western blot.

45. (Currently amended) The antibody or fragment thereof of claim 25 wherein said antibody or fragment thereof ~~specifically~~ binds to said protein in an ELISA.

46. (Previously presented) An isolated cell that produces the antibody or fragment thereof of claim 25.

47. (Previously presented) A hybridoma that produces the antibody or fragment thereof of claim 25.

48. (Previously presented) A method of detecting TR9 protein in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 25; and
- (b) detecting the TR9 protein in the biological sample.

49. (Previously presented) The method of claim 48 wherein the antibody or fragment thereof is a polyclonal antibody.

50. (Currently amended) An isolated monoclonal antibody or fragment thereof that ~~specifically~~ binds to a protein selected from the group consisting of:

- (a) a protein consisting of amino acid residues -40 to 615 of SEQ ID NO:2;
- (b) a protein consisting of amino acid residues 1 to 615 of SEQ ID NO:2;
- (c) a protein consisting of amino acid residues 1 to 310 of SEQ ID NO:2;
- (d) a protein consisting of amino acid residues 27 to 171 of SEQ ID NO:2; and
- (e) a protein consisting of a portion of SEQ ID NO:2, wherein said portion comprises at least 30 contiguous amino acid residues of SEQ ID NO:2.

51. (Currently amended) The antibody or fragment thereof of claim 50 that ~~specifically~~ binds protein (a).

52. (Currently amended) The antibody or fragment thereof of claim 50 that ~~specifically~~ binds protein (b).

53. (Currently amended) The antibody or fragment thereof of claim 50 that specifically binds protein (c).

54. (Currently amended) The antibody or fragment thereof of claim 50 that specifically binds protein (d).

55. (Currently amended) The antibody or fragment thereof of claim 50 that specifically binds protein (e).

56. (Currently amended) The antibody or fragment thereof of claim 51 that specifically binds protein (b).

57. (Currently amended) The antibody or fragment thereof of claim 55 that specifically binds a protein consisting of a portion of SEQ ID NO:2, wherein said portion comprises at least 50 contiguous amino acid residues of SEQ ID NO:2.

58. (Previously presented) The antibody or fragment thereof of claim 50 wherein said protein bound by said antibody or fragment thereof is glycosylated.

59. (Previously presented) The antibody or fragment thereof of claim 50 which is a human antibody.

60. (Previously presented) The antibody or fragment thereof of claim 50 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a humanized antibody;
- (c) a single chain antibody; and
- (d) an Fab fragment.

61. (Previously presented) The antibody or fragment thereof of claim 50 which is labeled.

62. (Previously presented) The antibody or fragment thereof of claim 50 which is radiolabeled

63. (Previously presented) The antibody or fragment of claim 50 which is biotinylated.

64. (Previously presented) The antibody or fragment of claim 50 which is conjugated to a therapeutic or cytotoxic agent.

65. (Previously presented) The antibody or fragment thereof of claim 50 wherein the antibody or fragment thereof agonizes TR9 signaling.

66. (Previously presented) The antibody or portion thereof of claim 50 which is fused to a heterologous polypeptide.

67. (Previously presented) The antibody of claim 50 which is attached to a solid support.

68. (Currently amended) The antibody or fragment thereof of claim 50 wherein said antibody or fragment thereof specifically binds to said protein in a Western blot.

69. (Currently amended) The antibody or fragment thereof of claim 50 wherein said antibody or fragment thereof specifically binds to said protein in an ELISA.

70. (Previously presented) An isolated cell that produces the antibody or fragment thereof of claim 50.

71. (Previously presented) A hybridoma that produces the antibody or fragment thereof of claim 50.

72. (Previously presented) A method of detecting TR9 protein in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 50; and
- (b) detecting the TR9 protein in the biological sample.

73. (Currently amended) An isolated antibody or fragment thereof that specifically binds to a protein selected from the group consisting of:

- (a) a protein consisting of the full-length polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037;
- (b) a protein consisting of the mature form of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037;

- (c) a protein consisting of the extracellular domain of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037;
- (d) a protein consisting of the cysteine rich domain of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037; and
- (e) a protein consisting of a portion of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037, wherein said portion comprises at least 30 contiguous amino acid residues of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037.

74. (Currently amended) The antibody or fragment thereof of claim 73 that ~~specifically binds~~ protein (a).

75. (Currently amended) The antibody or fragment thereof of claim 73 that ~~specifically binds~~ protein (b).

76. (Currently amended) The antibody or fragment thereof of claim 73 that ~~specifically binds~~ protein (c).

77. (Currently amended) The antibody or fragment thereof of claim 73 that ~~specifically binds~~ protein (d).

78. (Currently amended) The antibody or fragment thereof of claim 73 that ~~specifically binds~~ protein (e).

79. (Currently amended) The antibody or fragment thereof of claim 74 that ~~specifically binds~~ protein (b).

80. (Currently amended) The antibody or fragment thereof of claim 78 that ~~specifically binds~~ a protein consisting of a portion of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037, wherein said portion comprises at least 50 contiguous amino acid residues of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037.

81. (Previously presented) The antibody or fragment thereof of claim 73 wherein said protein bound by said antibody or fragment thereof is glycosylated.

82. (Previously presented) The antibody or fragment thereof of claim 73 which is a human antibody.

83. (Previously presented) The antibody or fragment thereof of claim 73 which is a polyclonal antibody.

84. (Previously presented) The antibody or fragment thereof of claim 73 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a humanized antibody;
- (c) a single chain antibody; and
- (d) an Fab fragment.

85. (Previously presented) The antibody or fragment thereof of claim 73 which is labeled.

86. (Previously presented) The antibody or fragment thereof of claim 73 which is radiolabeled

87. (Previously presented) The antibody or fragment of claim 73 which is biotinylated.

88. (Previously presented) The antibody or fragment of claim 73 which is conjugated to a therapeutic or cytotoxic agent.

89. (Previously presented) The antibody or fragment thereof of claim 73, wherein the antibody or fragment thereof agonizes TR9 signaling.

90. (Previously presented) The antibody or portion thereof of claim 73 which is fused to a heterologous polypeptide.

91. (Previously presented) The antibody of claim 73 which is attached to a solid support.

92. (Currently amended) The antibody or fragment thereof of claim 73 wherein said antibody or fragment thereof specifically binds to said protein in a Western blot.

93. (Currently amended) The antibody or fragment thereof of claim 73 wherein said antibody or fragment thereof ~~specifically~~ binds to said protein in an ELISA.

94. (Previously presented) An isolated cell that produces the antibody or fragment thereof of claim 73.

95. (Previously presented) A hybridoma that produces the antibody or fragment thereof of claim 73.

96. (Previously presented) A method of detecting TR9 protein in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 73; and
- (b) detecting the TR9 protein in the biological sample.

97. (Previously presented) The method of claim 96 wherein the antibody or fragment thereof is a polyclonal antibody.

98. (Currently amended) An isolated monoclonal antibody or fragment thereof that ~~specifically~~ binds to a protein selected from the group consisting of:

- (a) a protein consisting of the full-length polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037;
- (b) a protein consisting of the mature form of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037;
- (c) a protein consisting of the extracellular domain of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037;
- (d) a protein consisting of the cysteine rich domain of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037; and
- (e) a protein consisting of a portion of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037, wherein said portion comprises at least 30 contiguous amino acid residues of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037.

99. (Currently amended) The antibody or fragment thereof of claim 98 that ~~specifically~~ binds protein (a).

100. (Currently amended) The antibody or fragment thereof of claim 98 that specifically binds protein (b).

101. (Currently amended) The antibody or fragment thereof of claim 98 that specifically binds protein (c).

102. (Currently amended) The antibody or fragment thereof of claim 98 that specifically binds protein (d).

103. (Currently amended) The antibody or fragment thereof of claim 98 that specifically binds protein (e).

104. (Currently amended) The antibody or fragment thereof of claim 99 that specifically binds protein (b).

105. (Currently amended) The antibody or fragment thereof of claim 103 that specifically binds a protein consisting of a portion of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037, wherein said portion comprises at least 50 contiguous amino acid residues of the polypeptide encoded by the cDNA contained in ATCC Deposit Number 209037.

106. (Previously presented) The antibody or fragment thereof of claim 98 wherein said protein bound by said antibody or fragment thereof is glycosylated.

107. (Previously presented) The antibody or fragment thereof of claim 98 which is a human antibody.

108. (Previously presented) The antibody or fragment thereof of claim 98 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a humanized antibody;
- (c) a single chain antibody; and
- (d) an Fab fragment.

109. (Previously presented) The antibody or fragment thereof of claim 98 which is labeled.

110. (Previously presented) The antibody or fragment thereof of claim 98 which is radiolabeled.

111. (Previously presented) The antibody or fragment of claim 98 which is biotinylated.

112. (Previously presented) The antibody or fragment of claim 98 which is conjugated to a therapeutic or cytotoxic agent.

113. (Previously presented) The antibody or fragment thereof of claim 98, wherein the antibody or fragment thereof agonizes TR9 signaling.

114. (Previously presented) The antibody or portion thereof of claim 98 which is fused to a heterologous polypeptide.

115. (Previously presented) The antibody of claim 98 which is attached to a solid support.

116. (Currently amended) The antibody or fragment thereof of claim 98 wherein said antibody or fragment thereof specifically binds to said protein in a Western blot.

117. (Currently amended) The antibody or fragment thereof of claim 98 wherein said antibody or fragment thereof specifically binds to said protein in an ELISA.

118. (Previously presented) An isolated cell that produces the antibody or fragment thereof of claim 98.

119. (Previously presented) A hybridoma that produces the antibody or fragment thereof of claim 98.

120. (Previously presented) A method of detecting TR9 protein in a biological sample comprising:

- (a) contacting the biological sample with the antibody or fragment thereof of claim 98; and
- (b) detecting the TR9 protein in the biological sample.

121. (Currently amended) An isolated antibody or fragment thereof that specifically binds a TR9 protein expressed on the surface of a cell comprising a polynucleotide encoding amino acids 1 to 310 of SEQ ID NO:2 operably associated with a regulatory sequence that controls the expression of said polynucleotide.

122. (Previously presented) The antibody or fragment thereof of claim 121 which is a monoclonal antibody.

123. (Previously presented) The antibody or fragment thereof of claim 121 which is a human antibody.

124. (Previously presented) The antibody or fragment thereof of claim 121 which is selected from the group consisting of:

- (a) a chimeric antibody;
- (b) a polyclonal antibody;
- (c) a humanized antibody;
- (d) a single chain antibody; and
- (e) an Fab fragment.

125. (Currently amended) The antibody or fragment thereof of claim 121 wherein said antibody or fragment thereof specifically binds to said protein in a Western blot.

126. (Currently amended) The antibody or fragment thereof of claim 121 wherein said antibody or fragment thereof specifically binds to said protein in an ELISA.